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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/089,230 | 07/22/2002 | Yoshitoshi Kida | SON-2166/SOH | 2581 |

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EXAMINER

LESPERANCE, JEAN E

ART UNIT PAPER NUMBER

2674

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,230

Applicant(s)

KIDA ET AL.

Examiner

Jean E Lesperance

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-10 are presented for examination.

Specification

The abstract of the disclosure is objected to because it has two paragraphs. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 7-9 are rejected under 35 USC 102 (b) as being unpatentable over US Patent # 5,945,984 ("Kuwashiro").

As to claim 1, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to an active matrix display area, the Y-driver circuit portion Fig.1 (801) corresponding to a vertical drive circuit, and an X printed wiring board Fig.1 (701) for supplying signals to these T-TAB chips 601-1, 601-2, 601-8 corresponding to a horizontal aging circuit for supplying signals to a plurality of source lines at one time provided on a

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substrate of the liquid crystal display panel and the X-driver portion Fig.1 (501) corresponding to a horizontal drive circuit connected outside.

As for claim 2, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to a liquid crystal display panel comprising an active matrix display area, the X-driver portion Fig.1 (501) corresponding to a horizontal drive circuit, and a Y printed-wiring board Fig.1 (1001) for supplying signals to the Y-TAB chips 901-1, 901-2 corresponding to a vertical aging circuit for supplying signals to a plurality of gate lines at one time provided on a substrate of the liquid crystal display panel and the Y-driver circuit portion Fig.1 (801) are electrically connected with a control circuit portion which supplies desired signals in response to externally applied input signals corresponding to a vertical drive circuit connected outside.

As for claim 3, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to a liquid crystal display panel comprising an active matrix display area, an X printed wiring board Fig.1 (701) for supplying signals to these T-TAB chips 601-1, 601-2, 601-8 corresponding to a horizontal aging circuit for supplying signals to a plurality of source lines at one time, and a Y printed-wiring board Fig.1 (1001) for supplying signals to the Y-TAB chips 901-1, 901-2 corresponding to a vertical aging circuit for supplying signals to a plurality of gate lines at one time provided on a substrate of the liquid crystal display panel and the X-driver portion Fig.1 (501) corresponding to a horizontal drive circuit and the Y-driver circuit portion Fig.1 (801) are electrically connected with a control circuit portion which supplies

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desired signals in response to externally applied input signals corresponding to a vertical drive circuit connected outside.

As for claim 7, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to a liquid crystal display panel comprising an active matrix display area, the Y-driver circuit portion Fig.1 (801) corresponding to a vertical drive circuit, and an X printed wiring board Fig.1 (701) for supplying signals to these T-TAB chips 601-1, 601-2, 601-8 corresponding to a horizontal aging circuit for supplying signals to a plurality of source lines at one time provided on a substrate of the liquid crystal display panel and the X-driver portion Fig.1 (501) corresponding to a horizontal drive circuit connected outside, see Fig.1 (701) 601-1 to 601-8 corresponding to said method of producing a liquid crystal display panel comprising forming the horizontal aging circuit in a process of forming the active matrix display area on the substrate.

As for claim 8, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to a liquid crystal display panel comprising an active matrix display area, the X-driver portion Fig.1 (501) corresponding to a horizontal drive circuit, and a Y printed-wiring board Fig.1 (1001) for supplying signals to the Y-TAB chips 901-1, 901-2 corresponding to a vertical aging circuit for supplying signals to a plurality of gate lines at one time provided on a substrate of the liquid crystal display panel and the Y-driver circuit portion Fig.1 (801) are electrically connected with a control circuit portion which supplies desired signals in response to externally applied input signals

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corresponding to a vertical drive circuit connected outside , see Fig.1 (1001) 901-1 and 901-2 corresponding to said method of producing a liquid crystal display panel comprising forming the vertical aging circuit in a process of forming the active matrix display area on the substrate.

As for claim 9, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to a liquid crystal display panel comprising an active matrix display area, an X printed wiring board Fig.1 (701) for supplying signals to these T-TAB chips 601-1, 601-2, 601-8 corresponding to a horizontal aging circuit for supplying signals to a plurality of source lines at one time, and a Y printed-wiring board Fig.1 (1001) for supplying signals to the Y-TAB chips 901-1, 901-2 corresponding to a vertical aging circuit for supplying signals to a plurality of gate lines at one time provided on a substrate of the liquid crystal display panel and the X-driver portion Fig.1 (501) corresponding to a horizontal drive circuit and the Y-driver circuit portion Fig.1 (801) are electrically connected with a control circuit portion which supplies desired signals in response to externally applied input signals corresponding to a vertical drive circuit connected outside, see Fig.1 corresponding to said method of producing a liquid crystal display panel comprising forming the horizontal aging circuit and the vertical aging circuit in a process of forming the active matrix display area on the substrate.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent # 5,945,984 ("Kuwashiro") in view of US Patent # 5,953,003 ("Kwon et al.").

As for claim 4-6, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to a liquid crystal display panel. Accordingly, Kuwashiro teaches all the claimed limitations as recited in claims 4-6 with the exception of providing wherein a horizontal aging circuit or a vertical aging circuit gathers together a plurality of source lines or gate lines via CNZOS switches, NMOS switches, or PMOS switches and supplies signals to the collected lines.

However, Kwon et al. teach the first to third control switches 70, 72 and 86 are transmission gates each formed by the parallel-connected NMOS transistor and PMOS transistor (column 5, lines 45-47) corresponding to wherein a horizontal aging circuit or a vertical aging circuit gathers together a plurality of source lines or gate lines via CNZOS switches, NMOS switches, or PMOS switches and supplies signals to the collected lines.

It would have been obvious to utilize the switches as taught by Kwon et al. in the display device disclosed by Kuwashiro because this would provide an improved flat display data driving device which can hold data.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent # 5,945,984 ("Kuwashiro") in view of US Patent # 9,771,239 ("Uchiyama").

As for claim 10, Kuwashiro teaches a liquid crystal panel 3 forming the active matrix liquid crystal display (Fig.1) corresponding to a liquid crystal display apparatus of an active matrix type, Fig.1 (121) where TFT is inherently function with low temperature corresponding to wherein a vertical drive circuit is formed integrally with a liquid crystal display area on a glass substrate by using low temperature polySi TFTs, and Fig.1 (501) corresponding to output terminals of a driver IC constituting the horizontal drive circuit and source lines are in a one-to-one correspondence. Accordingly, Kuwashiro teaches all the claimed limitations in claim 10 with the exception of providing a horizontal drive circuit is connected to a liquid crystal display panel substrate by COG.

However, Uchiyama teaches a driving IC 14 is disposed in the IC mounting area 9 by means of a COG (chip on glass) technique (see Fig.9).

It would have been obvious to utilize the chip on glass technique as taught by Uchiyama in the display device disclosed by Kuwashiro because this would provide an electro-optical panel in which the structure of each pixel is improved thereby allowing a gap distance between two substrates.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (703) 308-6413. The examiner can normally be reached on from Monday to Friday between 8:00AM and 4:30PM.

Any response to this action should be mailed to: If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709 .

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Jean Lesperance


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Date 8-6-2004


RICHARD HJERPE 8/6/04
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600